

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 61-295494

(43)Date of publication of application : 26.12.1986

(51)Int.Cl.

F28F 3/06

(21)Application number : 60-136573

(71)Applicant : SHOWA ALUM CORP

(22)Date of filing : 21.06.1985

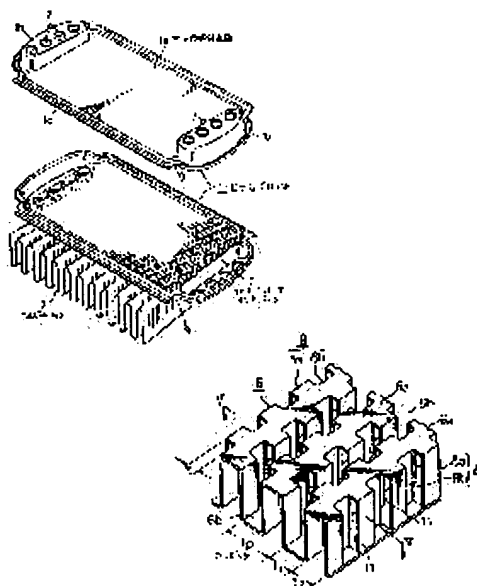
(72)Inventor : HOSHINO RYOICHI  
SASAKI HIRONAKA

## (54) LAMINATED TYPE HEAT EXCHANGER

### (57)Abstract:

**PURPOSE:** To increase the exchange heat amount to improve the heat exchanger performance by using multi-entry type inner fins to set the fin pitch in a specific range.

**CONSTITUTION:** Plate-like tube elements 1 and corrugated fins 2 are alternately and vertically laminated in a plurality of stages. Each of tube elements 1 has at its intermediate portion a heat exchange medium passage 1a and at its both ends tank parts 1b communicating with the passage 1a and a relatively large expansion height. Further, multi-entry type inner fins 6 having a size extending the full part of a heat medium passage 1a in the inner part thereof are loaded therein so that the flow direction is along a direction of connecting the tank parts 1b and 1b. The multi entry type inner fins 6 are formed by folding a single plate continuously in a U-shape. The fin pitch fp of the inner fins 6 is set to 3.0W0.6mm. By this organization, the heat transfer property with respect to the circuit apparatus wall is high by the remarkable turbulence effect of the heat exchanger.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2000 Japan Patent Office